

Annotations.

“Ne quid nimis.”

VITAL STATISTICS FOR 1928.

THE Registrar-General has issued a provisional statement of the figures for birth-rate, death-rate, and infantile mortality during the year 1928.

	Birth-rate.	Death-rate.	Infant mortality-rate.
England and Wales ..	16.7	11.7	65
107 county boroughs and great towns including London	16.9	11.6	70
156 smaller towns ..	16.7	10.6	59
London	15.9	11.6	67

The smaller towns are those with a population in 1921 of 20,000-50,000. The death-rate for England and Wales (which is based on the estimated population in 1928) relates to the whole population, but that for London and the two groups of towns (based on the 1927 estimate) relates to the civil population only. Birth-rate and death-rate are per 1000 population, infant mortality-rate per 1000 live births.

The Registrar-General remarks that the birth-rate is 0.1 per 1000 above that of 1927. The death-rate is 0.6 per 1000 below that of 1927 and only 0.1 per 1000 above the lowest recorded (1923 and 1926). The infant mortality-rate is the lowest on record, 4 per 1000 births below that of 1923. These provisional figures, which are not likely to require substantial modification, have been issued for the information of medical officers of health.

INTRAVASCULAR CLOTTING.

THROMBOSIS is stated to occur in something over one per cent. of all operations, and the same incidence seems to hold good for parturition. If the suggestion of F. de Quervain is accepted that a considerable proportion of the cases of post-operative pneumonia is due to the formation of thrombotic emboli thrombosis may be an even more common sequel of operation than is suspected. There is no indication that the incidence of post-operative thrombosis has diminished within the last 20 years. Indeed, in Germany it is stated to show a considerable increase since 1922. In any case the problem of the causation of this condition is of sufficient importance to arouse the interest of surgeons and obstetricians. The recent discussion on this subject by the combined sections of Obstetrics, Surgery, and Pathology of the Royal Society of Medicine, of which a report is given in another column, has shown that clinical evidence is unable to throw much light on the problem and that its solution must come from the laboratory. Indeed, the most important contribution to the discussion did come from the laboratory in the opening remarks by Dr. W. Howel Evans. The observations of Dr. Evans and his collaborators have recently been published,¹ and were then the subject of a detailed review in our columns.² It is, therefore, only necessary to state briefly that in a large number of operations a great increase in the number of blood-platelets was found to occur after the operations, and the same was observed after childbirth. The rise begins about the fourth day, increases to a maximum about the tenth day, and then falls slowly back to the normal level. The rise in the platelet count was accompanied by a shortening of the

coagulation time of the blood when measured outside the body. It is remarkable that, clinically, thrombosis occurs most frequently at about the time that the rise in the platelet-count reaches a maximum. It must be noted that none of the surgical cases on which the platelet counts were made developed thrombosis. Dr. Evans expressed himself very cautiously in appraising the significance of this new and important observation, and it is clear that further investigations are necessary to determine whether a platelet rise above a certain limit is in itself sufficient to induce thrombosis or whether additional factors are involved in it. But his work has opened up a way of attacking at least one aspect of the problem by experimental methods. By performing operations on animals it may be possible to determine the factor, or factors, responsible for the post-operative rise in the blood-platelets. The suggestion by Mr. D. H. Patey that stasis of the circulation plays an important part in the onset of thrombosis seems well founded. It is important from the practical point of view, because it offers a means of preventing thrombosis by avoiding conditions favouring stasis. On the other hand, the suggestion made by another speaker of injecting anticoagulants would hardly be justified in the light of our present knowledge of the mode of action of these substances. The action of such a substance as heparin is transient, lasting only for a few hours, and is followed by a reaction in the opposite direction, as a result of which the coagulability of the blood is increased.

It may seem curious that the aetiology of thrombosis is so little understood when the physiological literature on blood coagulation fills literally volumes. But, as pointed out recently by Dr. J. W. Pickering in his excellent monograph,³ “The Blood Plasma in Health and Disease,” physiological and biochemical work on blood coagulation is, with very few exceptions, characterised by a disregard of the blood-platelets. Indeed, in this country, with the single exception of the Edinburgh School of Physiology, where, under the influence of Sir Edward Sharpey Schafer, histology has been taught as an integral part of physiology, and where the work of W. Cramer and of J. Tait has demonstrated the important part played by the platelets in blood coagulation, physiologists have categorically denied the presence of blood-platelets as living cellular elements existing in the circulating blood. It is to be hoped that this discussion, by emphasising the importance of the blood-platelets in the aetiology of an important pathological lesion, will help to remove this erroneous teaching and stimulate further research into the physiology of the blood-platelets.

THE CENTRAL ASSOCIATION FOR MENTAL WELFARE.

IT is characteristic of our country that much of the best and most of the pioneer social work is carried out by voluntary bodies which are remarkably efficient and well organised. An example of fine voluntary work for the public health is afforded by the Central Association for Mental Welfare (C.A.M.W.), which continues to point the way to long-overdue legislation for the subnormal population. The Mental Deficiency Bill passed through Parliament at the end of 1927, largely owing to the unremitting efforts of the Association's members. During the following year work was organised in three areas where the local authorities have not been able to administer the Mental Deficiency Act, and central organisers stayed in the districts until a local organisation was well established. A valuable department of the work is the educational courses provided for all whose work brings them into contact with defectives. The report states that it is increasingly difficult to find experienced and competent people to fill administrative teaching and nursing posts as they fall vacant.

¹ Jour. Path. Bact., 1928, xxxi., 883.
² THE LANCET, 1928, ii., 982.

³ William Heinemann, London, 1928.

Representations have been made to the University of London, urging the authorities to institute a post-graduate course of psychiatric training for social workers; courses have been held by the Association, and workers have been trained at the central office. A special course was held in May for medical men and women; 28 of the 45 who attended were school medical officers. Another course was held for magistrates and was greatly appreciated. The courses for teachers are well established and over 1000 teachers have now been through them, but there is still an inadequate supply of suitable workers for special classes of dull and backward children. A variant of the teachers' course was held at the request of the Board of Control for inquiry officers and supervisors of occupation centres. There are now 109 occupation centres in England and Wales, most of them under the direct management of their local associations. Four new centres were opened during the year under review—a feat which involves a great deal more work than most people would imagine. Before a centre can be opened numbers of children have to be visited, those suitable for the centre have to be selected, parents' consent has to be obtained, premises found, committee formed, grants obtained, staff trained and appointed, and arrangements for transport made. The guardianship scheme is, in the absence of institutional accommodation, the most fruitful method of dealing with defectives. The C.A.M.W. has now made its scheme self-supporting and so extensive that an assistant officer has become necessary. The work at the office shows no sign of diminishing, but it is interesting to learn that far more "better-class" parents now apply for advice. It is no easy task to find a suitable institution for a defective, even for families who can afford to pay, but the Central Association has all the information docketed, and can often direct guardians to the most suitable colony or home. A register of nurses and governesses is also kept, but here, again, the demand greatly exceeds the supply. Certain trades employ large numbers of defectives, and the association is naturally anxious to have access to their records. Up to date three of the principal trade-boards have agreed to give information and four others are willing to supply figures without names. A hopeful offshoot of the Association is the Child Guidance Council, now a separate organisation with its own Council, offices, and staff. As is well known, the Commonwealth Fund of America is co-operating with this Council, and a Child Guidance Clinic is to be opened in London shortly. Five of the C.A.M.W. social workers have had a year's special training at the New York School of Social Service at the expense of the Commonwealth Fund, and the Secretary, Miss Evelyn Fox, has paid a three months' visit to various centres of work in America.

ICTERUS NEONATORUM.

THE origin of the so-called physiological jaundice of the newly born presents a problem which is still to a large extent unsolved, while a constant succession of theories has kept alive the interest which has been taken in it by the physiologist and the physician. Since the days of Morgagni, who attributed it to plugging of the bile-duct by milk curds—a view amended by Virchow to a similar action of mucous plugs—a series of explanations have been propounded of which few have stood the test of time. In recent years explanations which refer the origin of the jaundice to the alimentary tract have receded from favour, the field being occupied by two principal theories—namely, hæmatogenous and hepatogenous origin. The balance of opinion, at any rate in this country, has favoured the former view, in some degree as a result of the confirmation given to it by the van den Bergh reaction. Nevertheless the hepatogenous view, in favour of which A. Yllpö has adduced much cogent reasoning, has not been without its supporters. Prof. P. Lereboullet,¹ who has long been

a contributor to the literature of the subject, suggests in an interesting review that the hæmatogenous and hepatogenous theories are by no means as mutually exclusive as has been represented by their respective exponents. From the clinical aspect Prof. Lereboullet reminds the reader of three important facts: (1) that the icterus is preceded by an erythrodermic phase; (2) that the fæces are not decolorised; and (3) that the jaundice is in most cases acholuric. Its occurrence is especially frequent in twins, and in infants born prematurely or after difficult labour. The most important fact established by experiment is that the blood of the infant at the moment of birth contains bile; there is a physiological bilirubinæmia independent of the subsequent development of jaundice. It is also found that the blood of the cord contains less bile than that of the foetus, and the maternal blood contains three times less bile than the blood of the cord. Hence it may be inferred that the blood returning from the placenta loses some of its bile-pigments in the maternal circulation, and that from the point of view of the foetus the cord represents the main path of excretion of bile-pigments, only a portion passing into the meconium. It is undoubtedly true that a tendency to hæmolysis is present in the first few days of life; that is seen in the erythrodermic phase which so often precedes jaundice and which may be attributed to hæmoglobinæmia. These two factors, hyper-hæmolysis and hyper-cholæmia, are therefore present in *normal* infants after birth. At birth the ligature of the cord puts an abrupt termination to the path of excretion of the greater part of the foetal bile. As a result of this, the bile content of the blood rises, just at the moment when the existing number of the red corpuscles is becoming in excess of the infant's requirements. The kidneys have not as yet acquired the faculty of excreting bile, as is shown by the acholuric type of jaundice. The liver is in process of acquiring this faculty, but jaundice will occur in infants in whom it is not acquired with sufficient rapidity to keep pace with the hypercholæmia occasioned by ligature of the cord and accentuated by hæmolysis.

DUST AND TUBERCLE.

THE evil effects on the respiratory system of the inhalation of various forms of dust have been recognised for many years. Clinical and pathological investigations have shown that while some dusts are relatively innocuous, others, notably the hard silica dusts, produce profound changes in the lungs and influence very definitely the development of certain infections, especially tuberculosis. This much is generally accepted, but the exact method by which the pulmonary changes are brought about is not yet settled. And there is still less agreement as to the way in which the silica helps in the progress of the tuberculous process. The matter has been subjected to experimental investigation by many workers but with inconclusive results. It is easy enough to show that silica has a deleterious action on the tissues of the body, which, if continued, is followed by extreme fibrosis; and it can also be demonstrated in laboratory animals that the presence of silica increases the pathogenicity of the tubercle bacillus. But the production of the pulmonary lesions with which we are familiar in stone-masons and quartz-miners has yet to be achieved. The difficulty probably lies in the choice of the experimental animal. Rabbits and guinea-pigs can be exposed to dust atmospheres containing a vastly greater concentration of silica than any to which an industrial worker would ever be subjected, but they do not develop the characteristic pulmonary lesions. Such an experiment has been described in the *American Review of Tuberculosis* by H. S. Willis.² Guinea-pigs were exposed to a concentrated atmosphere of silica in a dusting chamber for periods ranging from 24 to 37 months. The exposures lasted for about three hours each day, for four or five

¹ Paris Médical, Nov. 3rd, 1928.

² Amer. Rev. Tuberc., 1928, xvii., 253.